



## TEACHERS GUIDE

### Biodiversity

Stages 3-4

#### COMMON MISCONCEPTIONS

A lot of animals in one area means that area has high biodiversity: Cities often have animals such as pigeons and rats and these are species that gather in large numbers so it can look like a lot of animals live there and one might think this means it is a healthy environment for animals. This is not true because only a few species can tolerate living in these places (ones that are small and highly mobile and can eat a lot of different things) so can make use of the few resources available for animals in a city. Many other species have more specific needs and cannot survive in the city such as koalas that need large areas of gum trees to survive. An area with high biodiversity is one that has resources that allow a variety of species to survive, not just a few.

#### PREQUISITES

Coming into this lesson, students need to have a basic understanding of what a habitat is (where an animal lives, eats and reproduces), and what a species is (generally the most specific unit of classification of living things) Animals of the same species can reproduce, have the same needs, and use the same habitat. A basic understanding of food webs would also be beneficial.

#### BIODIVERSITY

Biodiversity is the variety of different kinds of living things. Different areas contain different species, but also contain different levels of biodiversity. Biodiversity is important for a healthy environment. Each species of plant and animal play a different role, and all of them are needed for the local

environment to work properly. If one species disappears or becomes over populated then this has an impact on all the other species in that area. For example if you remove a predator such as the dingo, then the animals it preys on will become over populated. If herbivore prey species become over populated then they will eat plants faster than they can regrow causing those plants to die out.

## **TIPS FOR TEACHERS**

Keep in mind sometimes individuals of the same species don't always look exactly the same - for example individuals of some species are a different size or have slightly different features depending on their sex, such as how Male lions have a mane, or how male kangaroos are twice as large as female kangaroos, or how many male birds have more elaborate feathers than their female counterparts.